

CLAIMSWhat is claimed is:

- 5 1. An aqueous coating composition comprising
 (a) 10 to 60 wt % of an aqueous dispersion comprising water and at
 least one water-dilutable binders selected from the group
 consisting of polymethacrylic, polyacrylic, polyester,
10 polyurethane, hybride polyacrylic/polyester or
 polyacrylic/polyurethane, epoxy modified binders, with linear,
 branched or star structure and mixtures thereof, the amount of
 said water constituting at least 15 wt% based on the total weight
 of said component
 (b) 5 to 40 wt% of at least one water-dispersible polyisocyanates or
15 mixtures of water-dispersible and water-emulsifiable
 polyisocyanates, blocked or unblocked,
 (c) 5 to 70 wt% of filler material,
 (d) 1 to 40 wt% of a ground polymer material,
 (e) 0 to 15 wt% of organic co-solvents,
20 (f) 0.01 to 15 wt% of additives, pigments and fillers, and
 (g) 3 to 30 wt% of water.
2. The composition according to claim 1 wherein one or more binders
 selected from the group consisting of polyacrylics, polymethacrylics ,
25 polyesters, polyurethanes and polymers with star structure are used as
 component (a).
3. The composition according to claim 1 wherein component (b) is
 selected from the group consisting of isocyanurates, biurets, uretdions and
30 allofanates of 1,6-hexane diisocyanate.

4. The composition according to claim 1 wherein component (c) comprises 10 to 60 wt. % of the coating composition.
5. The composition according to claim 4 wherein component c) is aluminium hydroxide.
6. The composition according to claim 1 wherein component d) comprises 2 to 30 wt.% polymethyl methacrylate containing filler.
- 10 7. The composition according to claim 6 wherein component d) consists of about 40 wt. % polymethyl methacrylate, and 60 wt. % of aluminum hydroxide, colorants, and other additives at low levels.
8. The composition according to claim 1 wherein the amount of the
15 water, component (g), is from 5 to 20 wt.%.- 9. The composition according to claim 1 wherein the amount of the organic co-solvents, component (e), is from 0 to 5 wt. %.
- 20 10. The composition according to claim 1, wherein component a) is directly manufactured from the emulsion polymerization of the binder monomers or co-monomers.
- 11. A process for coating a substrate which comprises applying a one-
25 coat layer on a substrate within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) using a coating composition according to claim 1 and curing said coating.
- 12. A process for forming a multi-layer coating which comprises
30 applying several coating layers to a substrate within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) for each layer using a coating composition according to claim 1 and curing said coating layers.

13. A process for forming a coating layer as one-coating layer of a multi-layer coating which comprises applying to a substrate a coating layer selected from the group consisting of externally pigmented top coat layer and transparent clear coat layer said coating layer being applied from the
- 5 coating composition according to claim 1 within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) and curing said coating layer.
14. A substrate coated with the coating composition according to claim 1 and then cured.